BookletChart™

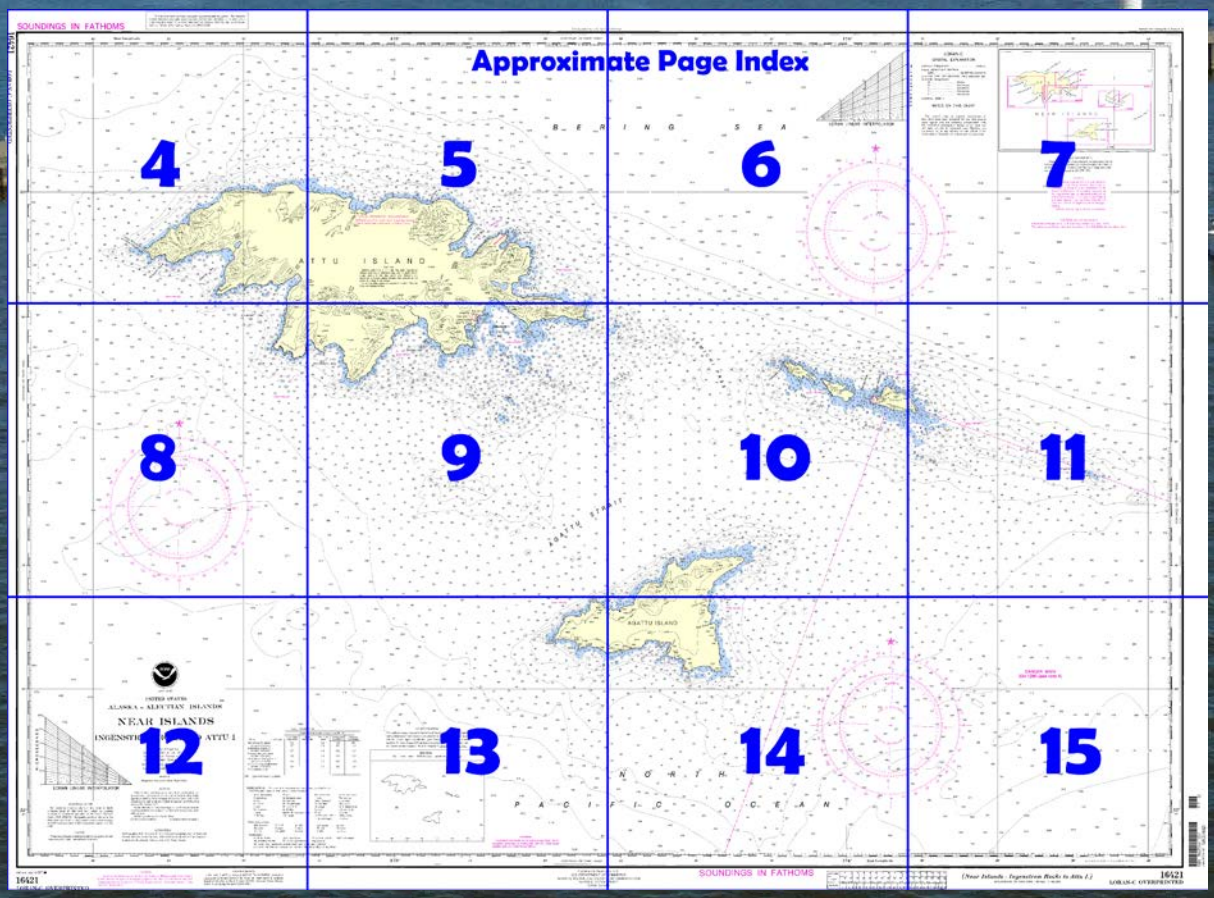
Near Islands – Ingenstrem Rocks to Attu Island

NOAA Chart 16421

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.

- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

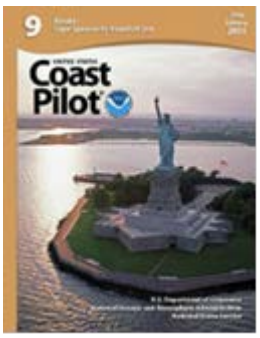
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=16421.



(Selected Excerpts from Coast Pilot)
The **Near Islands** include the Semichi Islands and Attu and Agattu Islands.
The **Semichi Islands** are Shemya, Nizki and Alaid. Shemya Island, the easternmost of the group, is about 65 miles WNW from Buldir Island. Alaid Island, the westernmost, is about 16 miles E by S from Attu. The group trends WNW over a distance of 11.5 miles. The islands have numerous lakes, are covered with tundra, and are treeless. The shores are fringed with reefs and rocks, some as far as 1 mile offshore.
Currents estimated to exceed 1 knot occur E and W of the Semichi Islands and in the passes between them. S currents have been reported in the area between the Semichi Islands and Agattu.
Ingenstrem Rocks, 14 miles SE from the E end of Shemya Island, is a group of four visible rocks and several others that uncover. The highest and northernmost of the group is 9 feet high.
Depths of 3 to 9 fathoms extend 2.2 miles SE from the 9-foot rock. This reef probably breaks along its entire length during heavy weather. Vessels should not approach the rocks closer than 3 miles on the SE, and 2 miles on the N and W.
Attu Island, the westernmost of the Aleutians, is 15 by 35 miles in extent and is indented by many bays and long inlets. The terrain is rugged and has practically no large level area. The bays on Attu Island offer a striking similarity. They are apparently formed by submerged valleys between mountain ridges. The heads of the bays are fed by streams which have carried down enough sand to give a good holding ground. The exception to this is Holtz Bay, which is rock and sand. At the head of each bay is a crescent-shaped, sand beach with a more or less high bank of sand across the middle. A course down the middle of the bay, with the exception of Massacre Bay, was found to be clear; all that have been investigated show deep water close inshore. Some have rocks along the shore but these are easily seen. Anchorages are in from 10 to 15 fathoms, sand bottom. The best method is to head into the bay until these depths are reached and anchor. At the heads of most of the bays are barabaras (huts) built by the Aleuts for use during the fur-trapping season.
Currents.–Strong currents may be encountered along the N coast of Attu Island, and while variable, the consensus seems to be that they follow strong winds and are noticeably affected by the weather. In calm weather the set is generally SE.
Survey operations in recent years have roughly defined tidal currents crossing the chain here, setting in a general NW and SE direction at the flood and ebb respectively, except as diverted by shoal and land areas. Slacks follow the times of local high and low water except for a lag at times as great as 1 hour.
W of Holtz Bay the N coast of Attu Island is precipitous, rugged and fairly straight for 7 miles. A number of reefs and rocks, all less than 0.3 mile from shore, are off this coast. Except for these inshore rocks this stretch of coast is free from dangers.
Austin Cove is an open bight about midway in this 7-mile stretch of coast. It offers some protection from S weather to small boats anchoring close inshore. A ledge terminating in a rock awash at high tide makes off the W side of the cove. A rock ledge, which projects from the inner part of the cove for 0.3 mile, must be avoided.
Steller Cove is a wide bight in the coast about 10 miles W of Holtz Bay. Three open coves further indent the coastline of this bight. The shoreline is bluff-lined except for the stretches of sandy beach in the middle and W coves. The only dangers to navigation are the close inshore rocks.
The westernmost of these coves offers the best anchorage. Some protection from S and W weather may be obtained here. To enter the anchorage, steer **210°**, heading about 200 yards W of a prominent grassy knoll at the head of the cove. Anchor in 8 or 9 fathoms, with a fine gray sand bottom. The holding properties of this anchorage are fair. The anchorage offers no protection, however, from N weather. A current setting E along the shore may cause a vessel to lay in the trough of the sea and roll excessively.

U.S. Coast Gu*ard* Rescue Coordination Center
24 hour Regional Contact for Emergencies

RCC Juneau	Commander 17th CG District Juneau, Alaska	(907) 463-2000

Table of Selected Chart Notes

HEIGHTS

Heights in feet above Mean High Water.

Mercator Projection
Scale 1:160,000 at Lat. 52° 40'
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 9. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 17th Coast Guard District in Juneau, Alaska, or at the Office of the District Engineer, Corps of Engineers in Anchorage, Alaska.

Refer to charted regulation section numbers.

CAUTION

Bottom uplift from 4 to 7 feet has been reported in various locations of Massacre Bay due to recent earthquake activity in the Attu Island area. Mariners are cautioned to expect depths shoaler than charted as the extent of change is not known.

Numerous obstructions are reported to exist in Pyramid Cove and Massacre Bay.

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 4° from the normal variation have been observed in Steller Cove.

LORAN-C

GENERAL EXPLANATION

LORAN-C FREQUENCY .....100kHz.

PULSE REPETITION INTERVAL

9990 .....99,900 Microseconds

STATION TYPE DESIGNATORS: (Not individual station letter designators)

M .....Master
W .....Secondary
X .....Secondary
Y .....Secondary
Z .....Secondary

EXAMPLE: 9990-X

RATES ON THIS CHART

9990-X 9990-Y 9990-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are presently compensated only for theoretical propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Skywave corrections are not provided.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 5.891" southward and 10.907" westward to agree with this chart.

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙ (Accurate location) o (Approximate location)

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

UPDATING SERVICE

FOR THIS CHART, a listing of NOTICE TO MARINERS corrections subsequent to the date shown in the lower left hand corner is available from the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

SOURCE DIAGRAM

665

The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

AUTHORITIES

Hydrography (from surveys of 1943-48) and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

COLREGS, 80.1705 (see note A)

International Regulations for Preventing Collisions at Sea, 1972.
The entire area of this chart falls seaward of the COLREGS Demarcation Line.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical
Al alternating
B black
Bn beacon
C can
DIA diaphone
F fixed
Fl flashing
G green
IQ interrupted quick
Iso isophase
LT HO lighthouse
M nautical mile
m minutes
MICRO TR microwave tower
Mkr marker
Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
Q quick
R red
Ra Ref radar reflector
R Bn radiobeacon
R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles
VQ very quick
W white
WHIS whistle
Y yellow

Bottom characteristics:

Blds boulders
bk broken
Cy clay
Co coral
G gravel
Grs grass
gy gray
h hard
M mud
Oys oysters
Rk rock
S sand
so soft
Sh shells
sy sticky

Miscellaneous:

AUTH authorized
ED existence doubtful
Obstn obstruction
PA position approximate
PD position doubtful
Rep reported
Subm submerged

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

TIDAL INFORMATION

Place Name (Lat/Long)	Height referred to datum of soundings (MLLW) Mean Higher High Water	Mean High Water	Mean Tide Level	Mean Lower Low Water	Extreme Low Water
	feet	feet	feet	feet	feet
Steller Cove, Attu Island (52°59'N/172°54'E)	3.7	*	1.8	0.0	-3.0
Etienne Bay, Attu Island (52°56'N/172°37'E)	3.7	*	1.8	0.0	-3.0
Massacre Bay, Attu Island (52°50'N/173°12'E)	3.3	*	1.6	0.0	-3.0
Alcan Harbor, Shemya Island (52°44'N/174°04'E)	3.4	3.1	1.7	0.0	-3.5
McDonald Cove, Agattu Island (52°28'N/173°43'E)	3.4	*	1.7	0.0	-3.0

Tide is chiefly diurnal.

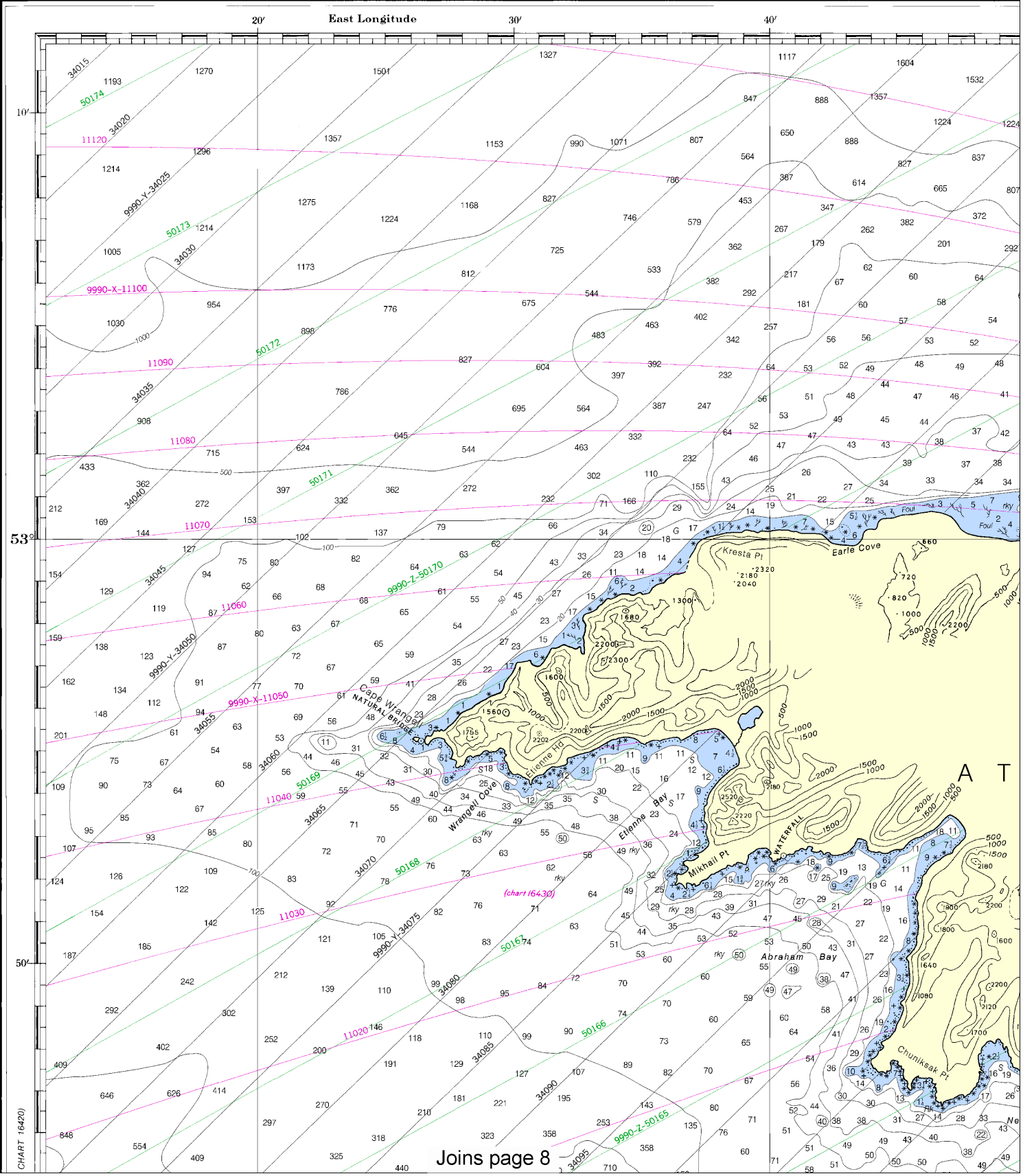
(396) (Latest information available)

16421

LORAN-C OVERPRINTED

SOUNDINGS IN FATHOMS

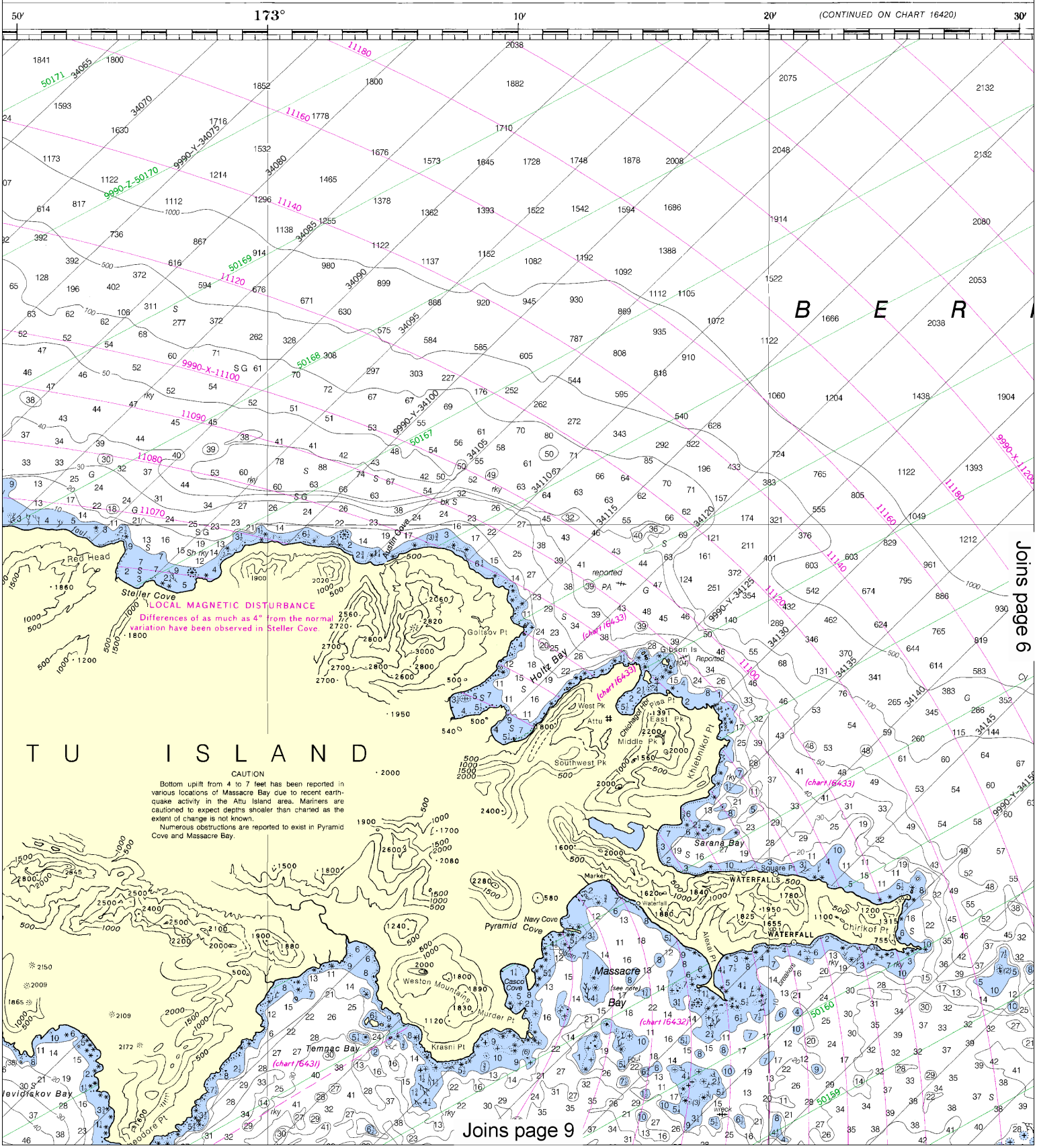
This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.



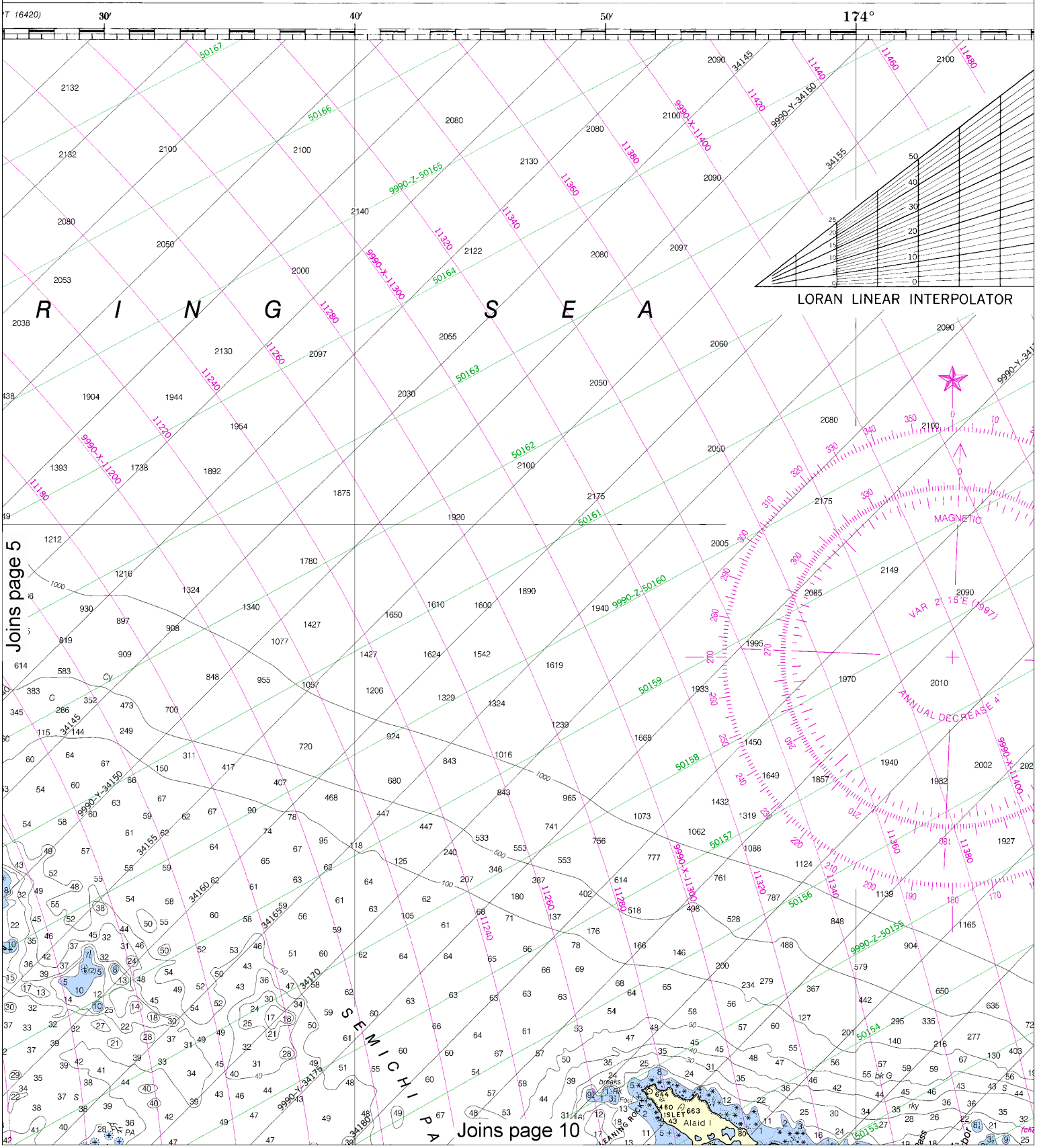
4

Note: Chart grid lines are aligned with true north.

Formerly C&GS 9198, 1st Ed., Apr. 1944 KAPP 2469



This BookletChart was reduced to 70% of the original chart scale.
The new scale is 1:228571. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.



6

Note: Chart grid lines are aligned with true north.

10′ 20′ 30′ 40′

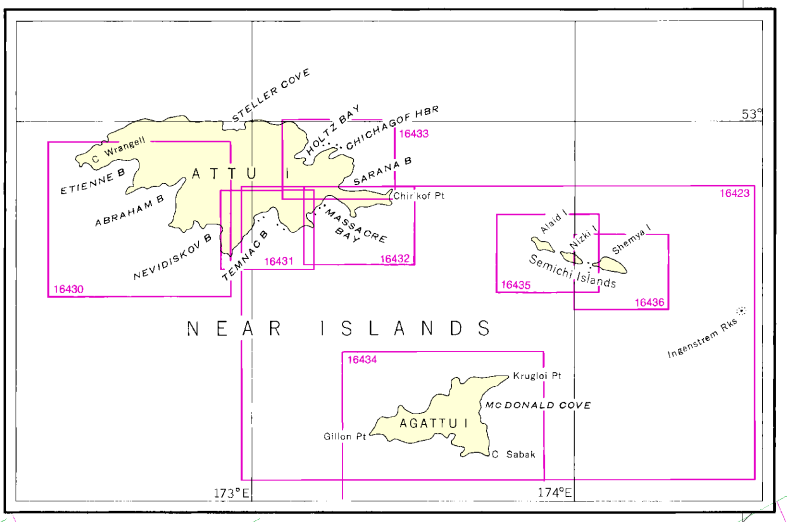
LORAN-C
GENERAL EXPLANATION

LORAN-C FREQUENCY .....100kHz.
PULSE REPETITION INTERVAL
9990 .....99,900 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M .....Master
W .....Secondary
X .....Secondary
Y .....Secondary
Z .....Secondary
EXAMPLE: 9990-X

MICROSECONDS 100 80 60 40 20 0

RATES ON THIS CHART
9990-X 9990-Y 9990-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are presently compensated only for theoretical propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Skywave corrections are not provided.



POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

NOTE A

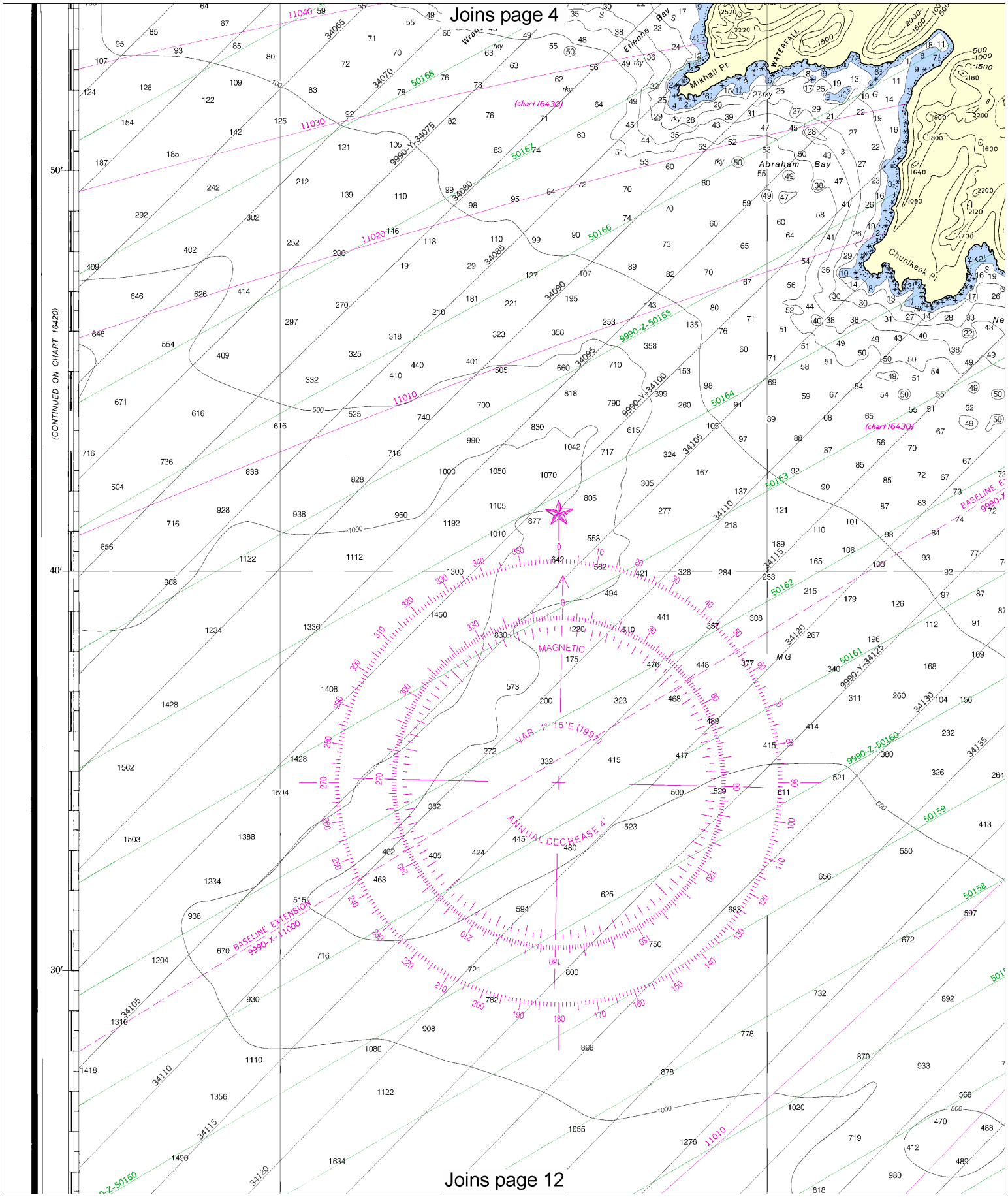
Navigation regulations are published in Chapter 2, U.S. Coast Pilot 9. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 17th Coast Guard District in Juneau, Alaska, or at the Office of the District Engineer, Corps of Engineers in Anchorage, Alaska.

Refer to charted regulation section numbers.

COLREGS, 80.1705 (see note A)

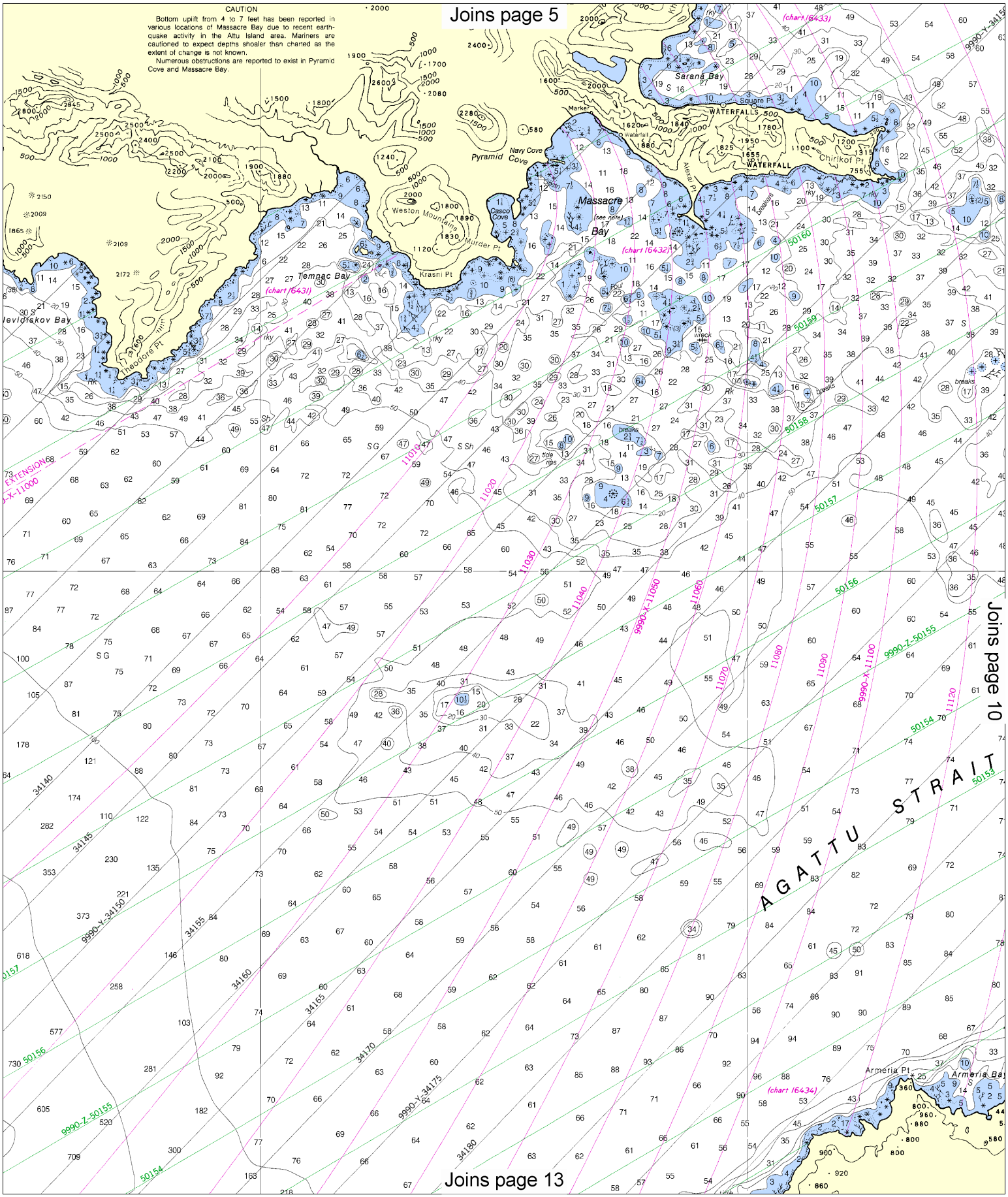
International Regulations for Preventing Collisions at Sea, 1972.
The entire area of this chart falls seaward of the COLREGS Demarcation Line.

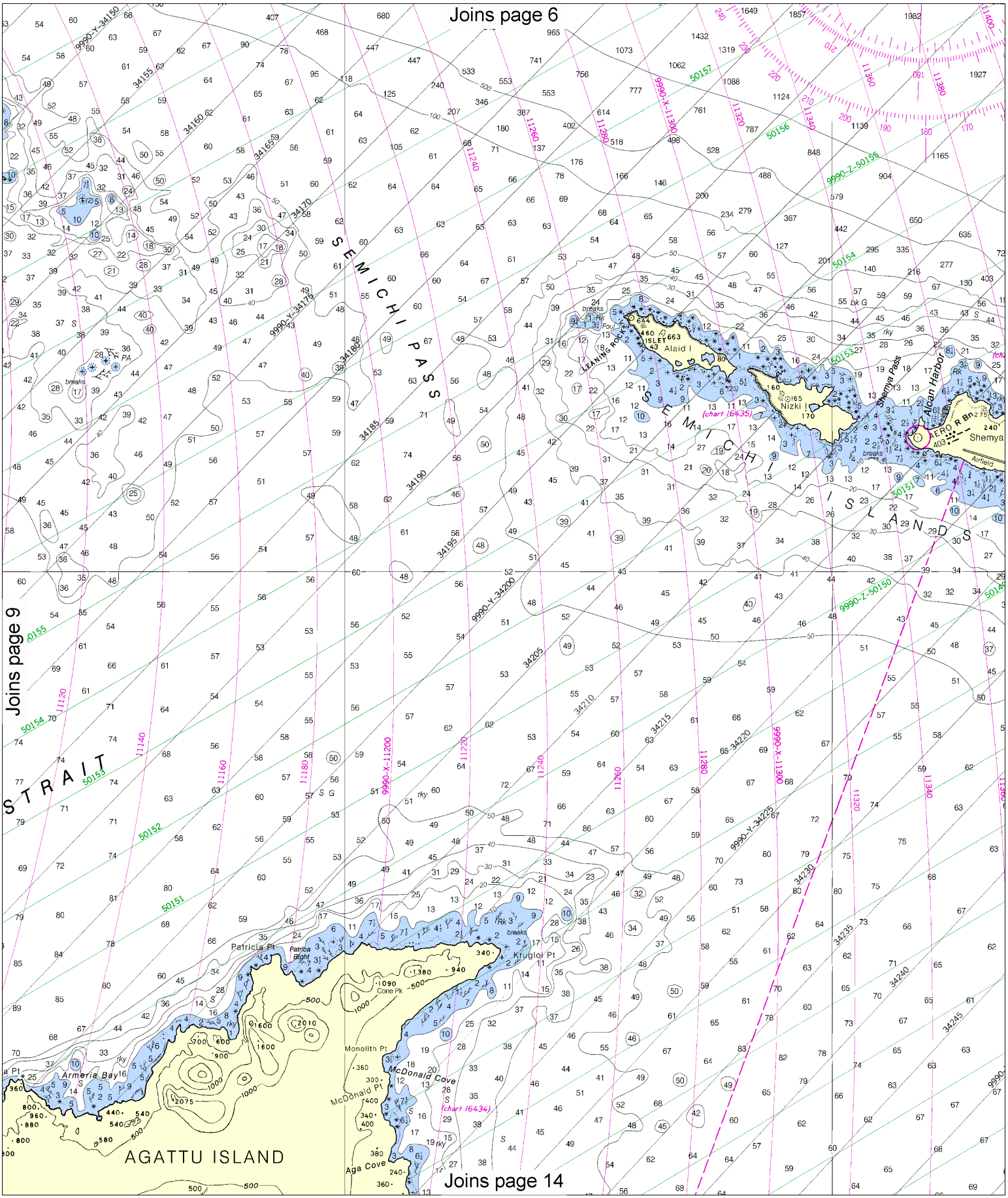
Joins page 11



8

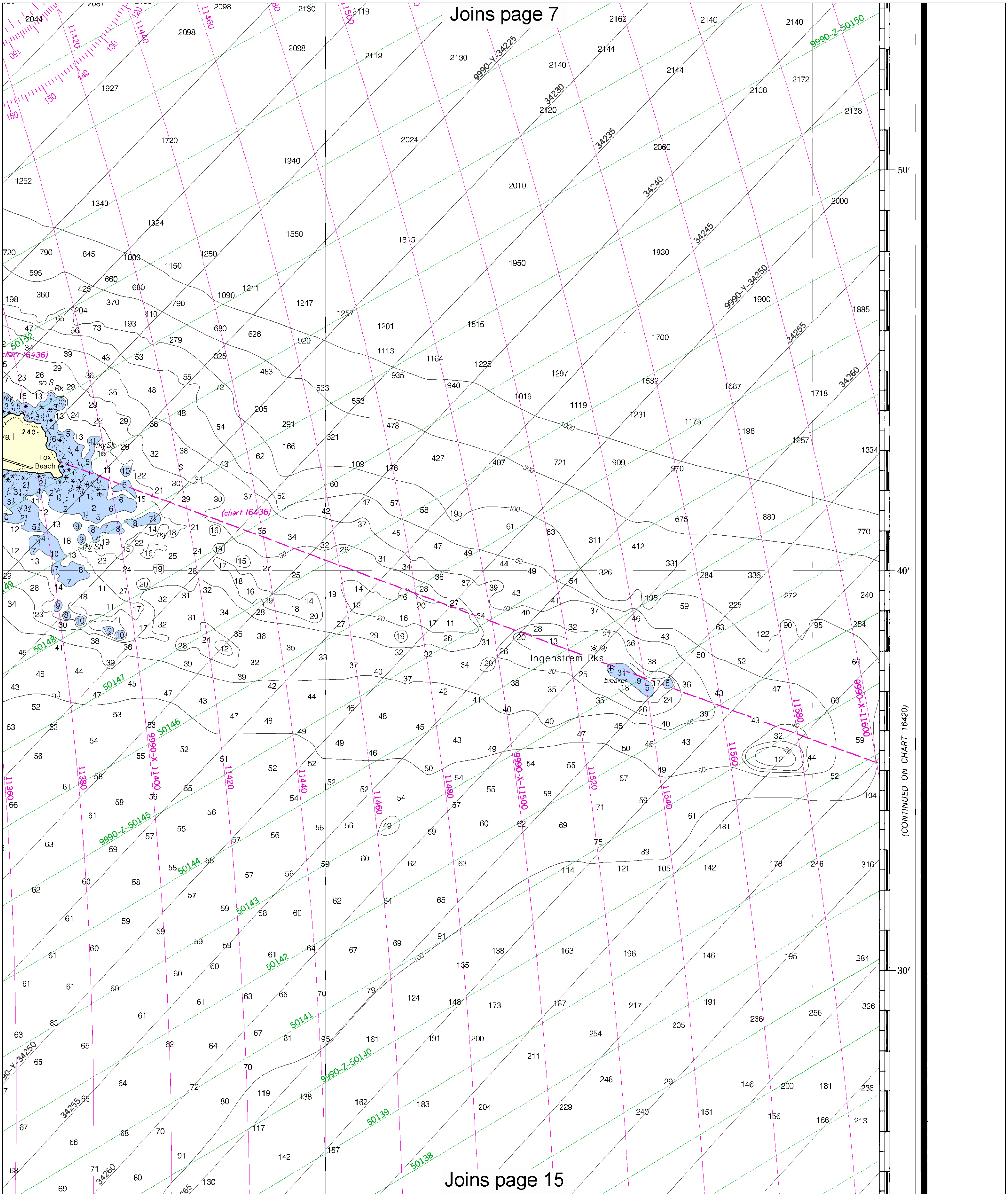
Note: Chart grid lines are aligned with true north.


CAUTION
Bottom uplift from 4 to 7 feet has been reported in various locations of Massacre Bay due to recent earthquake activity in the Attu Island area. Mariners are cautioned to expect depths shoaler than charted as the extent of change is not known.
Numerous obstructions are reported to exist in Pyramid Cove and Massacre Bay.
Joins page 5
Joins page 10
Joins page 13
AGATTU STRAIT
Massacre Bay
Pyramid Cove
Navy Cove
Casco Cove
Sarana Bay
Square Pt
WATERFALLS
WATERFALL
Chirikof Pt
Alexai Pt
Weston Mountains
Murder Pt
Krasni Pt
Temnac Bay
Theodore Pt
Armeria Pt
Armeria Bay
(chart 16433)
(chart 16432)
(chart 16431)
(chart 16434)
9990-Y-34150
9990-Y-34175
9990-Z-50155
9990-X-11000
9990-X-11050
9990-X-11100
9990-Z-50155
50160
50159
50158
50157
50156
50154
50153
11010
11020
11030
11040
11060
11070
11080
11090
11120
34140
34145
34155
34160
34165
34170
34180



10

Note: Chart grid lines are aligned with true north.

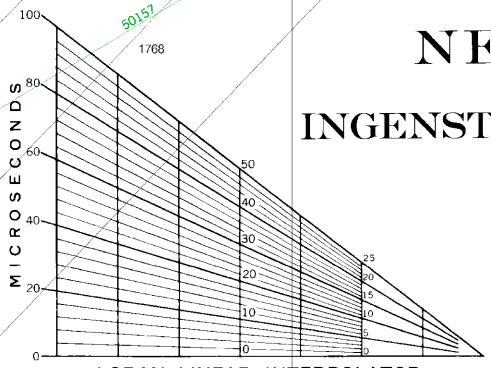

Joins page 7
Ingenstrem Rks
Fox Beach
breaker
(chart 16436)
9990-Y-34225
9990-Y-34250
9990-Z-50150
9990-Z-50145
9990-Z-50140
9990-X-11400
9990-X-11500
9990-X-11600
50′
40′
30′
(CONTINUED ON CHART 16420)
Joins page 15

Joins page 8

UNITED STATES
ALASKA - ALEUTIAN ISLANDS
NEAR ISLANDS
INGENSTREM ROCKS TO ATTU I

Mercator Projection
Scale 1:160,000 at Lat. 52° 40'
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

HEIGHTS
Heights in feet above Mean High Water.



LORAN LINEAR INTERPOLATOR

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 5.891" southward and 10.907" westward to agree with this chart.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Notice to Mariners.

CAUTION

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙ (Accurate location) o (Approximate location)

AUTHORITIES

Hydrography (from surveys of 1943-48) and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, and U.S. Coast Guard.

TIDAL INFORMATION

Place Name (Lat/Long)	Height referred to: Mean Higher High Water	Mean High Water
	feet	feet
Steller Cove, Attu Island (52°59'N/172°54'E)	3.7	*
Etienne Bay, Attu Island (52°56'N/172°37'E)	3.7	*
Massacre Bay, Attu Island (52°50'N/173°12'E)	3.3	*
Alcan Harbor, Shemya Island (52°44'N/174°04'E)	3.4	3.1
McDonald Cove, Agattu Island (52°28'N/173°43'E)	3.4	*
Tide is chiefly diurnal.		

(396) (Latest information available)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo
Al alternating	IQ interrupted quick	N
B black	Iso isophase	OB
Bn beacon	LT HO lighthouse	Oc
C can	M nautical mile	Or
DIA diaphone	m minutes	Q
F fixed	MICRO TR microwave tower	R
Fl flashing	Mkr marker	Ra
		R

Bottom characteristics:

Blds boulders	Co coral	gy gray	(
bk broken	G gravel	h hard	F
Cy clay	Grs grass	M mud	S

Miscellaneous:

AUTH authorized	Obstn obstruction	PD p
ED existence doubtful	PA position approximate	Rep r

(21) Wreck, rock, obstruction, or shoal swept clear to the depth
(2) Rocks that cover and uncover, with heights in feet above d

10th Ed., July 12/97 ■

16421

LORAN-C OVERPRINTED

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.

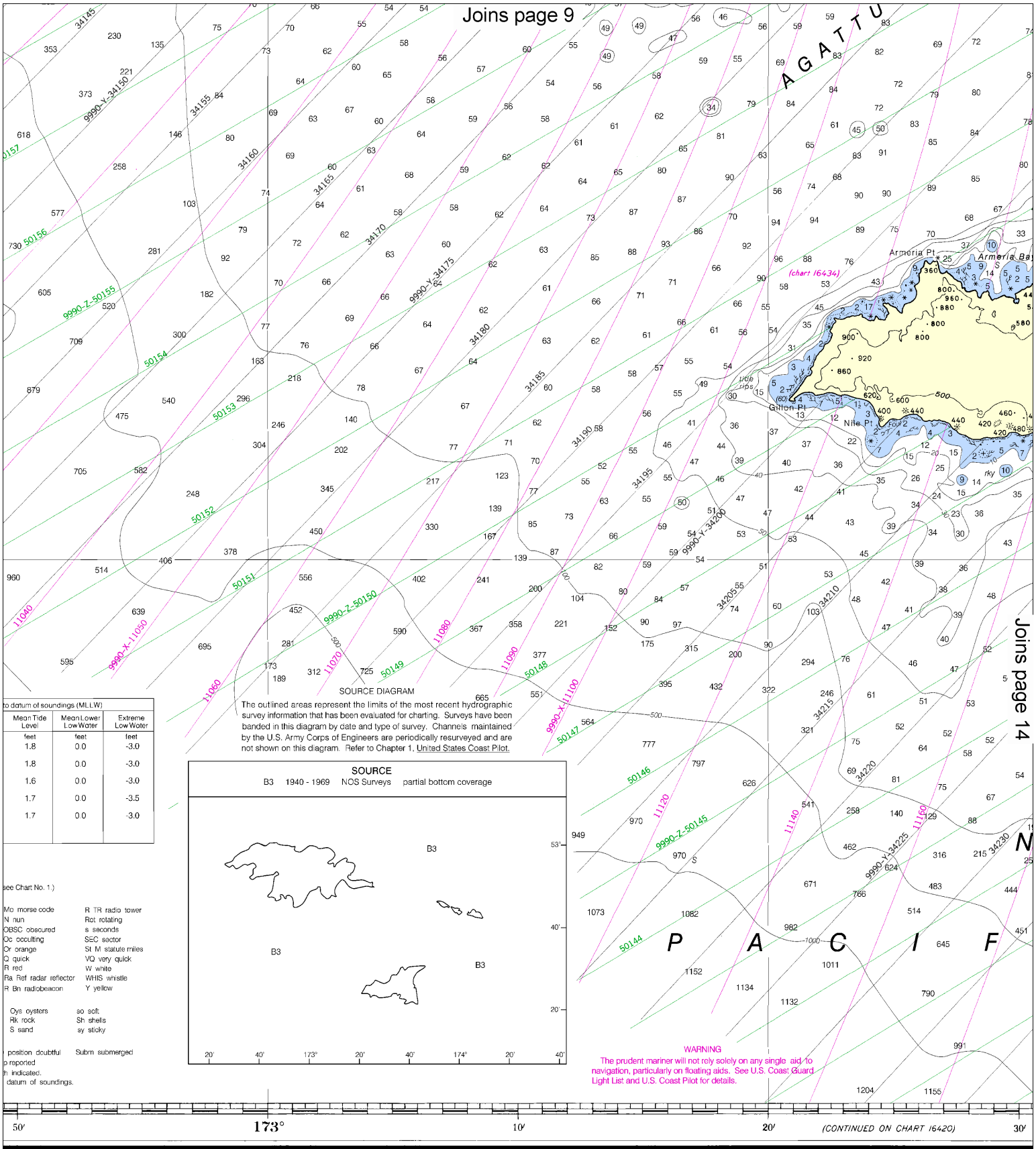
UPDATING SERVICE

FOR THIS CHART, a listing of NOTICE TO MARINERS corrections subsequent to the date shown in the lower left hand corner is available from the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

12

Note: Chart grid lines are aligned with true north.

Joins page 9



to datum of soundings (MLLW)

Mean Tide Level	Mean Lower Low Water	Extreme Low Water
feet	feet	feet
1.8	0.0	-3.0
1.8	0.0	-3.0
1.6	0.0	-3.0
1.7	0.0	-3.5
1.7	0.0	-3.0

see Chart No. 1.)

Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
Q quick
R red
Ra Ref radar reflector
R Bn radiobeacon

R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles
VQ very quick
W white
WHIS whistle
Y yellow

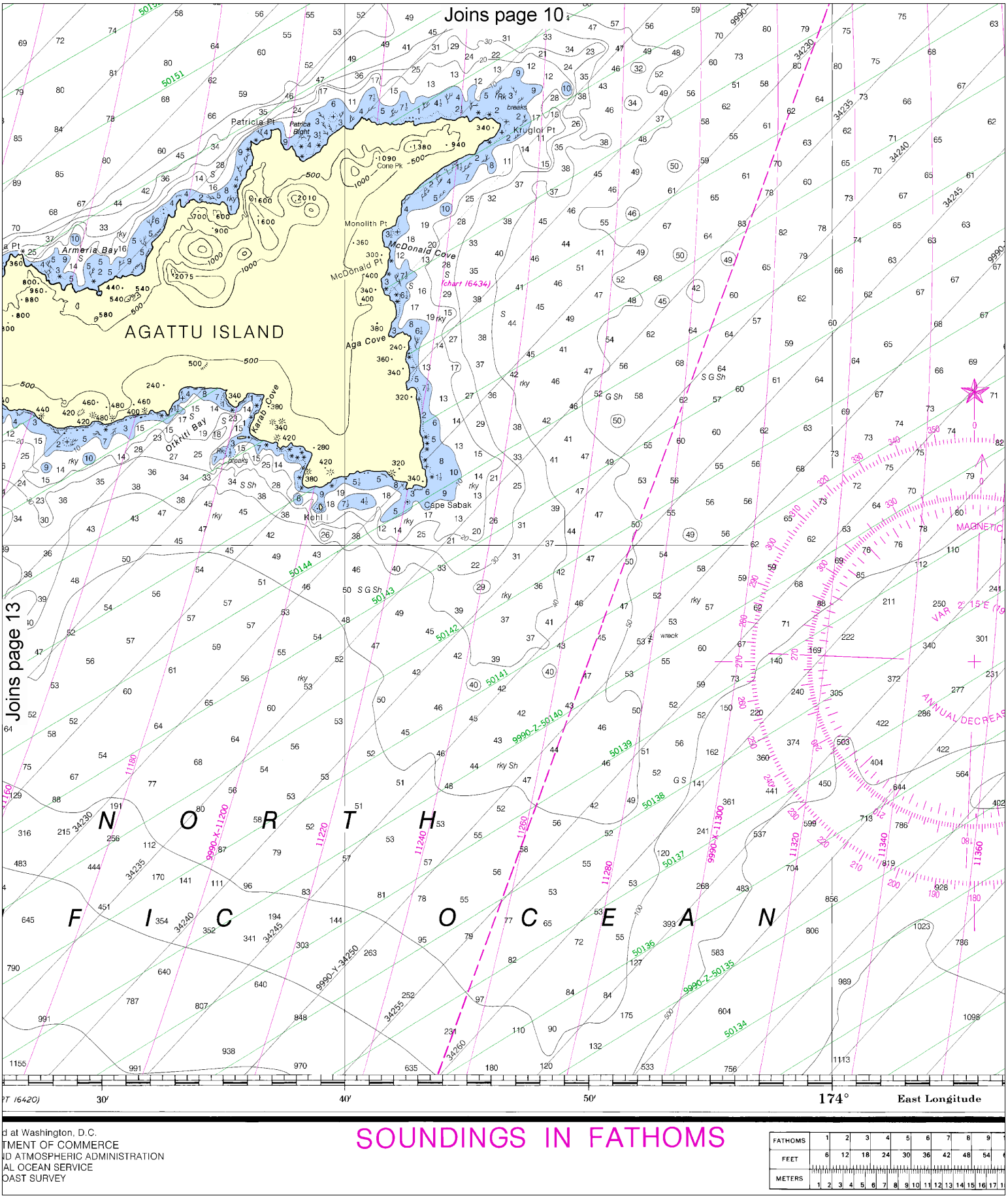
Oys oysters
Rk rock
S sand

so soft
Sh shells
sy sticky

position doubtful
reported
indicated.
datum of soundings.

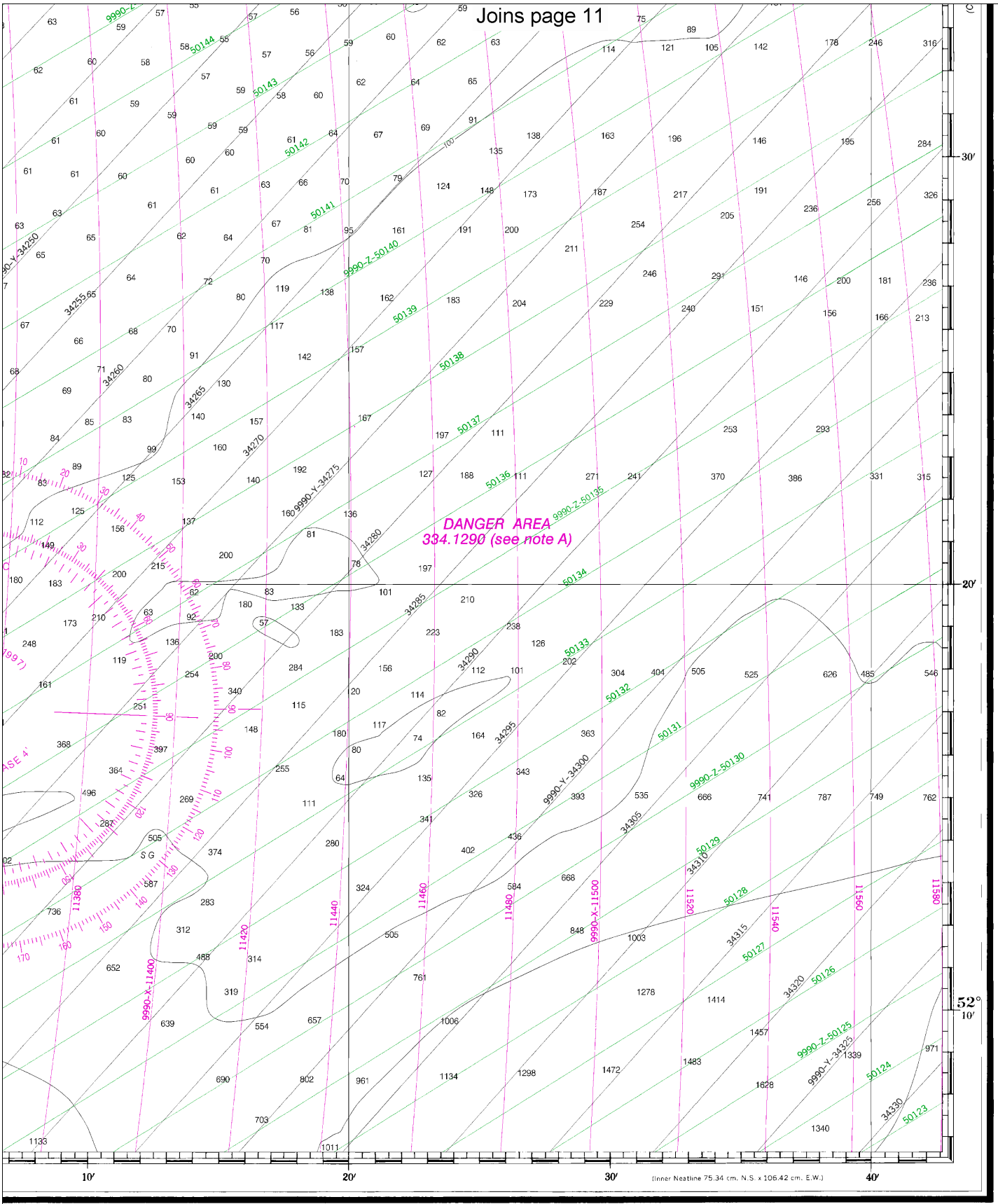
Subm submerged

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMIN
NATIONAL OCEAN SERVICE
COAST SURVEY



d at Washington, D.C.
TMENT OF COMMERCE
ND ATMOSPHERIC ADMINISTRATION
AL OCEAN SERVICE
OAST SURVEY

Note: Chart grid lines are aligned with true north.



(Near Islands - Ingenstrem Rocks to Attu I.)

SOUNDINGS IN FATHOMS – SCALE 1:160,000

16421

LORAN-C OVERPRINTED

ED.NO. 10

NSN 7642014011237

NIMA STOCK NO. 16AC016421

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

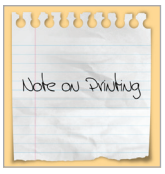
All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information	—	**http://www.nauticalcharts.noaa.gov**
Online chart viewer	—	**http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html**
Report a chart discrepancy	—	**http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx**
Chart and chart related inquiries and comments	—	**http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs**
Chart updates (LNM and NM corrections)	—	**http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html**
Coast Pilot online	—	**http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm**
Tides and Currents	—	**http://tidesandcurrents.noaa.gov**
Marine Forecasts	—	**http://www.nws.noaa.gov/om/marine/home.htm**
National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
Contact Us	—	**http://www.nauticalcharts.noaa.gov/staff/contact.htm**

twitter —— For the latest news from Coast Survey, follow **@nauticalcharts**



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

NOAA's Office of Coast Survey The Nation's Chartmaker